• Engine output SAE J1349:
  Net 295 kW  395 hp
  Gross 297 kW  398 hp
• Body volume:
  22 m³  29.0 yd³
• Load capacity:
  36 t  40 sh ton
• Volvo High-performance, low-emission direct-injected, turbocharged, intercooled diesel engine as standard.
• Electronically controlled fully automatic powershift transmission.
• Variable hydraulic retarder as standard.
• Dropbox with longitudinal diff. lock and high and low gear ranges.
• Fully enclosed, forced oil-cooled multiple wet disc brakes with external cooling.
• 100% lock-up differential locks. One longitudinal and three transverse diff. locks.
• Volvo rough terrain suspension, high ground clearance and individually oscillating bogie and front axles.
• Load and dump brake.
• Low interior noise level.
• Adjustable steering wheel.
**DRIVETRAIN**

- **Torque converter:** Single stage with free-wheeling stator and automatic lock-up in all ranges.
- **Transmission:** Electronically controlled, fully automatic planetary transmission with six gears forward and two in reverse.
- **Dropbox:** Volvo with 2-stage design, power takeoff and 100% differential locking.
- **Axles:** Volvo, 6-wheel drive. All axles have transversal diff. locks with 100% lock-up and fully floating axle shafts with planetary type hub reductions.
- **Differential locks:** One longitudinal and three transverse. All with 100% lock-up.

**ENGINE**

- **Make:** Volvo
- **Model:** TD122 KFE
- **Max power at:** 35 r/s 2100 rpm
- **SAE J1349 Gross:** 297 kW 398 hp
- **Flywheel power at:** 35 r/s 2100 rpm
- **SAE J1349 Net:** 295 kW 395 hp
- **DIN 6271**
  - 295 kW 395 hp
- **Max. torque at:** 23 r/s 1400 rpm
- **SAE J1349 Gross:** 1675 Nm 1235 lbf ft
- **SAE J1349 Net:** 1665 Nm 1228 lbf ft
- **DIN 6271**
  - 1665 Nm 1228 lbf ft
- **Displacement total:** 12 l 322 in³
- **Bore:** 130 mm 5.13 in
- **Stroke:** 150 mm 5.9 in
- **Compression ratio:** 15:1

  * with fan at normal speed. With fan operating at full speed, the flywheel power is 280 kW 375 hp, which corresponds to DIN 70020.
  ** with fan at normal speed. With fan operating at full speed, the maximum torque is 1510 Nm 1114 lbf ft, which corresponds to DIN 70020.

**ELECTRICAL SYSTEM**

- **Voltage:** 24 V
- **Battery capacity:** 2x170 Ah
- **Alternator:** 1.65 kW 60 A
- **Starter motor:** 6.6 kW 8.8 hp

**SERVICE CAPACITIES**

- **Crankcase:** 31 l 8.2 US gal
- **Cooling system, exchange:** 122 l 32.2 US gal
- **Cooling system, total:** 140 l 37 US gal
- **Transmission:** 40 l 10.6 US gal
- **Dropbox:** 8 l 2.1 US gal
- **Front axle:** 46 l 12.2 US gal
- **First bogie axle:** 47 l 12.4 US gal
- **Second bogie axle:** 46 l 12.2 US gal
- **Brake cooling tank:** 100 l 26.4 US gal
- **Brake cooling system, total:** 135 l 35.7 US gal
- **Hydraulic tank:** 155 l 41 US gal
- **Hydraulic system, total:** 272 l 71.9 US gal
- **Fuel tank:** 460 l 121.5 US gal

**SUSPENSION**

- **Volvo suspension system. Totally maintenance-free.**
- **Front axle:** One rubber spring with bottoming absorption on each side. Stabilizer. Three shock absorbers on each side. The front axle is suspended at three points, allowing oscillation in rough terrain.
- **Bogie:** Volvo’s unique rough terrain bogie, which permits individual oscillation between the axles.
**BRAKE SYSTEM**

Fully hydraulic brakes with enclosed, oil-emerged multiple wet discs on all axles. Two circuits. Separate cooling for each axle. Designed to comply with ISO 3450 and SAE J1473 at gross machine weight.

Circuit division: One for front axle and one for bogie axles.

Parking brake: Spring-applied, air-released disc brake on the propeller shaft, designed to hold a loaded machine on a grade up to 18%. When the parking brake is applied, the longitudinal differential is locked.

Load and dump brake: With the engine running, the service brake on the bogie axles is applied together with the parking brake.

Compressor: Gear-driven by engine transmission.

Transmission retarder: Hydraulic, integrated in transmission as standard. Infinitely variable with the retarder pedal or full effect applied via the service brake pedal.

Exhaust retarder: Standard.

For retarding capability, including hydraulic transmission retarder, engine and exhaust retarder. See graph on page 4.

**HYDRAULIC SYSTEM**

Pumps: Four engine-dependent, variable piston pumps mounted on flywheel power takeoffs.

One ground-dependent piston pump for supplementary steering mounted on the dropbox.

Filtration: Through two paper filters with magnetic cores.

<table>
<thead>
<tr>
<th>Pump capacity per pump</th>
<th>110 l/min</th>
<th>29.0 US gpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>at shaft speed</td>
<td>42 r/s</td>
<td>2550 rpm</td>
</tr>
<tr>
<td>Working pressure</td>
<td>21 MPa</td>
<td>3040 psi</td>
</tr>
</tbody>
</table>

**STEERING SYSTEM**

Hydromechanical articulated steering with mechanical feedback. 3.4 turns lock-to-lock.

Cylinders: Two double-acting steering cylinders.

Supplementary steering: Standard. Complies with ISO 5010 standard at total machine weight.

Steering angle: ± 45°

**BODY**

Body: Hardened and tempered steel body with high impact strength.

Cylinders: Two single-stage, double-acting hoist cylinders.

<table>
<thead>
<tr>
<th>Tipping angle</th>
<th>71°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tipping time with load</td>
<td>15 s</td>
</tr>
<tr>
<td>Lowering time</td>
<td>12 s</td>
</tr>
</tbody>
</table>

Body, plate thickness:
- Sides: 12 mm (1/2 in)
- Bottom/chute: 16 mm (5/8 in)
- Headboard: 8 mm (5/16 in)
- Beams: 10 mm (3/8 in)

Yield strength: 1000 N/mm² (145,000 psi)

Tensile strength: 1250 N/mm² (181,000 psi)

Hardness min.: 360 – 440 HB

**WEIGHTS**

Operating weight includes all fluids and operator.

Standard machine.

<table>
<thead>
<tr>
<th>Operating weight</th>
<th>Front 15400 kg</th>
<th>33,951 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rear 14750 kg</td>
<td>32,518 lb</td>
</tr>
<tr>
<td>Total</td>
<td>30150 kg</td>
<td>66,469 lb</td>
</tr>
<tr>
<td>Payload</td>
<td>36000 kg</td>
<td>79,365 lb</td>
</tr>
<tr>
<td>Total weight</td>
<td>Front 18300 kg</td>
<td>40,344 lb</td>
</tr>
<tr>
<td></td>
<td>Rear 47850 kg</td>
<td>105,489 lb</td>
</tr>
<tr>
<td></td>
<td>Total 66150 kg</td>
<td>145,833 lb</td>
</tr>
</tbody>
</table>

**GROUND PRESSURE**

At 15% sinkage of unloaded radius and specified weights.

<table>
<thead>
<tr>
<th>Unloaded</th>
<th>Front 106 kPa</th>
<th>15.4 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rear 51 kPa</td>
<td>7.4 psi</td>
</tr>
<tr>
<td>Loaded</td>
<td>Front 127 kPa</td>
<td>18.4 psi</td>
</tr>
<tr>
<td></td>
<td>Rear 168 kPa</td>
<td>24.4 psi</td>
</tr>
</tbody>
</table>
RIMPULL
1 Rimpull in kp lbf
2 Speed in km/h mph
3 Machine weight in kg lb
4 Grade in % + rolling resistance in %.

RETARDATION PERFORMANCE
(Exhaust retarder + hydraulic transmission retarder)
1 Braking effort in kp lbf
2 Speed in km/h mph
3 Machine weight in kg lb
4 Grade in % – rolling resistance in %.

INSTRUCTIONS
Diagonal lines represent total resistance (grade % plus rolling resistance %).
Charts based on 0 % rolling resistance, standard tires and gearing, unless otherwise stated.
In the retardation chart, the diagonal lines represent the “total resistance” as well (here in downhill grades it is the total extra pushing force), which is the grade in % minus the rolling resistance in %.
A. Find the diagonal line with the appropriate total resistance on the right-hand edge of the chart.
B. Follow the diagonal line downward until it intersects the actual machine weight line, NMW or GMW.
C. Draw a new line horizontally to the left from the point of intersection until the new line intersects the rimpull or retardation curve.
D. Read down for vehicle speed.
## DIMENSIONS Volvo A40 6x6 (unloaded)

### Load Capacity (Body volumes according to SAE 2:1)

Load capacity.................. 36,000 kg  40 sh tn
Body, struck.................. 16.3 m³  21.3 yd³
heaped.................. 22.2 m³  29.0 yd³

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value (mm)</th>
<th>Value (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11135</td>
<td>36'6&quot;</td>
</tr>
<tr>
<td>A₁</td>
<td>5246</td>
<td>17'3&quot;</td>
</tr>
<tr>
<td>A₂</td>
<td>6525</td>
<td>21'5&quot;</td>
</tr>
<tr>
<td>B</td>
<td>5738</td>
<td>18'10&quot;</td>
</tr>
<tr>
<td>C</td>
<td>3701</td>
<td>12'2&quot;</td>
</tr>
<tr>
<td>C₁</td>
<td>3618</td>
<td>11'10&quot;</td>
</tr>
<tr>
<td>C₂</td>
<td>1331</td>
<td>4'4&quot;</td>
</tr>
<tr>
<td>C₃</td>
<td>4073</td>
<td>13'4&quot;</td>
</tr>
<tr>
<td>D</td>
<td>2960</td>
<td>9'9&quot;</td>
</tr>
<tr>
<td>E</td>
<td>1270</td>
<td>4'2&quot;</td>
</tr>
<tr>
<td>F</td>
<td>4442</td>
<td>14'7&quot;</td>
</tr>
<tr>
<td>G</td>
<td>1940</td>
<td>6'4&quot;</td>
</tr>
<tr>
<td>H</td>
<td>1793</td>
<td>5'11&quot;</td>
</tr>
<tr>
<td>I</td>
<td>643</td>
<td>2'1&quot;</td>
</tr>
<tr>
<td>J</td>
<td>3055</td>
<td>10'1&quot;</td>
</tr>
<tr>
<td>K</td>
<td>2510</td>
<td>8'3&quot;</td>
</tr>
<tr>
<td>L</td>
<td>961</td>
<td>3'2&quot;</td>
</tr>
<tr>
<td>M</td>
<td>7491</td>
<td>24'7&quot;</td>
</tr>
<tr>
<td>N</td>
<td>8827</td>
<td>28'11&quot;</td>
</tr>
<tr>
<td>N₁</td>
<td>4238</td>
<td>13'11&quot;</td>
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<tr>
<td>O</td>
<td>3290</td>
<td>10'9&quot;</td>
</tr>
<tr>
<td>P</td>
<td>3059</td>
<td>10'</td>
</tr>
<tr>
<td>Q</td>
<td>2853</td>
<td>9'4&quot;</td>
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<tr>
<td>R</td>
<td>657</td>
<td>2'2&quot;</td>
</tr>
<tr>
<td>R₁</td>
<td>754</td>
<td>2'6&quot;</td>
</tr>
<tr>
<td>S</td>
<td>1379</td>
<td>4'6&quot;</td>
</tr>
<tr>
<td>T</td>
<td>834</td>
<td>2'9&quot;</td>
</tr>
<tr>
<td>U</td>
<td>3498</td>
<td>11'6&quot;</td>
</tr>
<tr>
<td>V</td>
<td>2636</td>
<td>8'8&quot;</td>
</tr>
<tr>
<td>W</td>
<td>3430</td>
<td>11'3&quot;</td>
</tr>
<tr>
<td>X</td>
<td>618</td>
<td>2'</td>
</tr>
<tr>
<td>X₁</td>
<td>645</td>
<td>2'1&quot;</td>
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<tr>
<td>X₂</td>
<td>764</td>
<td>2'6&quot;</td>
</tr>
<tr>
<td>Y</td>
<td>2636</td>
<td>8'8&quot;</td>
</tr>
<tr>
<td>Z</td>
<td>3430</td>
<td>11'3&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angle</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a₁</td>
<td>27°</td>
</tr>
<tr>
<td>a₂</td>
<td>71°</td>
</tr>
<tr>
<td>a₃</td>
<td>45°</td>
</tr>
</tbody>
</table>
### STANDARD EQUIPMENT

**Safety**
- ROPS/FOPS cab
- Anti-slip material on hood and fenders
- Hazard flashers
- Horn
- Protective grille for rear window
- Rearview mirrors
- Reverse alarm
- Secondary steering
- Speedometer, electric
- Steering joint locking assembly
- Trainer’s seat with seat belt and backrest
- Windshield wipers with interval
- Windshield washers

**Comfort**
- Adjustable steering wheel
- Ashtray
- Cab heater with filtered fresh air and defroster
- Cigarette lighter
- Cup holder
- Contronic information display
- Ergonomically designed and adjustable operator’s seat with air suspension, electric heating and retractable seat belt
- Radio/Contronic console in ceiling
- Sun visor
- Tinted glass

**Engine**
- Exhaust retarder
- Intercooler
- Low-emission engine
- Oil drainage hose
- Preheating coil
- Turbocharger

**Electric system**
- Alternator
- Battery disconnect switch
- Electrical outlet 24V
- Lights:
  - Headlights, high/low beam
  - Parking lights
  - Turn signals
  - Rear lights
  - Brake lights
  - Reverse lights
  - Cab lighting
  - Instrument lighting
  - Control panel lighting
- Gauges for:
  - Air pressure
  - Engine temperature
  - Engine rpm
  - Fuel
  - Hours
  - Transmission oil temperature
- Pilot lamps for:
  - Bogie axles diff. lock
  - Front axle diff. lock
  - Longitudinal diff. lock
  - Lights
  - Main beam
  - Preheating coil
  - Service brake
  - Turn signals

**Warning lamps for:**
- Air cleaner, engine
- Battery charging
- Body up
- Brake pressure
- Brake cooling oil level
- Brake cooling oil temperature
- Coolant level
- Dropbox oil pressure
- Engine oil pressure
- Engine temperature
- Engine-dependent steering pump
- Ground-dependent steering pump
- Parking brake
- Radiator fan
- Transmission/dropbox malfunction

**Central warning for:**
- Battery charging
- Brake cooling oil level
- Brake pressure
- Body up
- Engine oil pressure
- Engine overspeed
- Steering function
- Transmission/dropbox malfunction

**Drivetrain**
- Torque converter with automatic lock-up
- Fully automatic transmission
- Hydraulic, variable transmission retarder
- Dropbox with high/low range
- Longitudinal differential lock
- Differential lock front axle
- Differential lock first bogie axle
- Differential lock second bogie axle

**Brakes**
- Fully hydraulic brakes with enclosed, oil-emergent multiple wet discs on all axles
- Separate cooling for each axle
- Two circuits
- Load and dump brake
- Parking brake
- Retarder activation in brake pedal

**Body**
- Body with exhaust ducts

**Protection**
- Mudguards on front of body
- Overhead guard, FOPS
- Extra body spill guard

**Tires**
- 29.5R25

---

**OPTIONAL EQUIPMENT**

**Service and maintenance**
- Toolbox
- Central lubrication

**Engine**
- Oil-bath air cleaner
- Coolant filter
- Engine coolant and service brake oil pre-heater, 120V/240V

**Electrical**
- Work lights, roof-mounted

**Cab**
- Air-conditioning
- Electrically heated rearview mirrors
- Radio installation kit

**Body**
- Body heating
- Overhung tailgate, wire-operated
- Rock liner
- Upper side extensions, 100 mm 4"

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*Under our policy of continual product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.*

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**Volvo Construction Equipment Group**
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